Navigating distributed terminologies using LOD

The case of OE-OA & AGROVOC in Organic.Edunet

LOV Symposium

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Organic Edunet

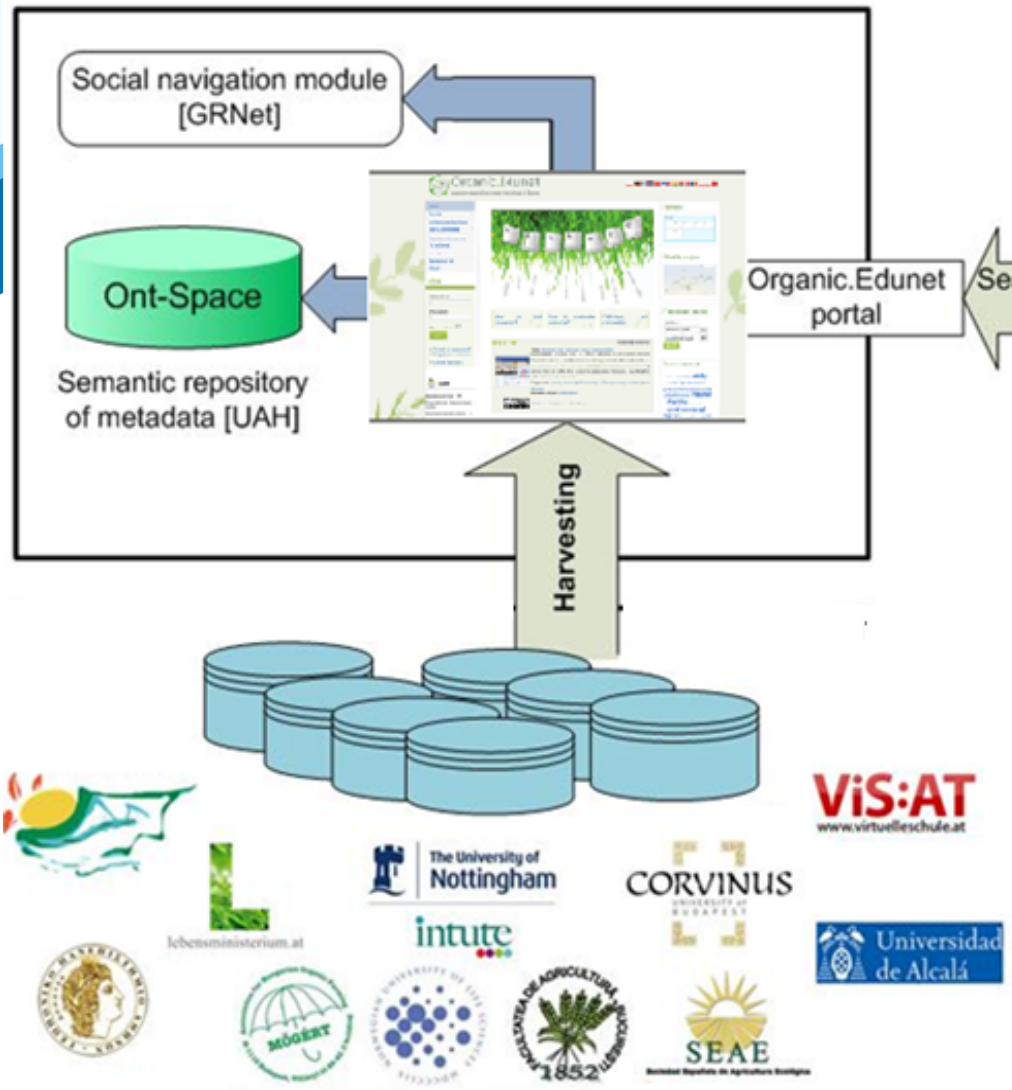
http://www.organicedunet.org

About Organic.Edunet

Organic.Edunet is a **learning portal** that provides access to **digital learning resources on Organic Agriculture and Agroecology** and aims to facilitate access, usage and exploitation of such content

- Developed in the context of eContent+ program
- **10,767** resources, from 11 institutional collections and 2 user communities
- 1,944 registered users (today)
- +100 unique visitors/day from more than 120 countries
- Many different approaches to find resources.

General OE workflow



- Ontology-driven intelligent search mechanisms
- Front-end of a repository federation of learning resources in digital format
- LOM compliant metadata
- OAI/PMH harvesting mechanism

Agricultural metadata record in OE

Go Back

Directrices del manejo de plagas, UC: tomates, áncoras → LO title

Publicado en la Web por la Universidad de California, este recurso aportainformación sobre la áncora de la alfalfa (Autographa californica), y la áncora del repollo (Trichoplusia ni), que causan daños menores a los cultivos de tomate, alimentándose en el follaje de las plantas. Los autores del material son especialistas y consultores agrarios, autorizados por la facultad de la Universidad de California, y posteriormente revisada. El sitio incluye una descripción de las áncoras, información sobre el daño que pueden causar, y directrices en el manejo de las plagas. También se proporcionan fotografías en color de las áncoras. → Description

Access to the resource

View metadata details

→ Full details & Resource access

Resource type: guide_(advice_sheets)

Typical age range context: 18-U

Keywords: plagas de insectos, gestión de plagas, tomates, California, Trichoplusia ni, Autographa californica

→ OE annotations

→ Keywords

Language:

Validated by: intute best of the web

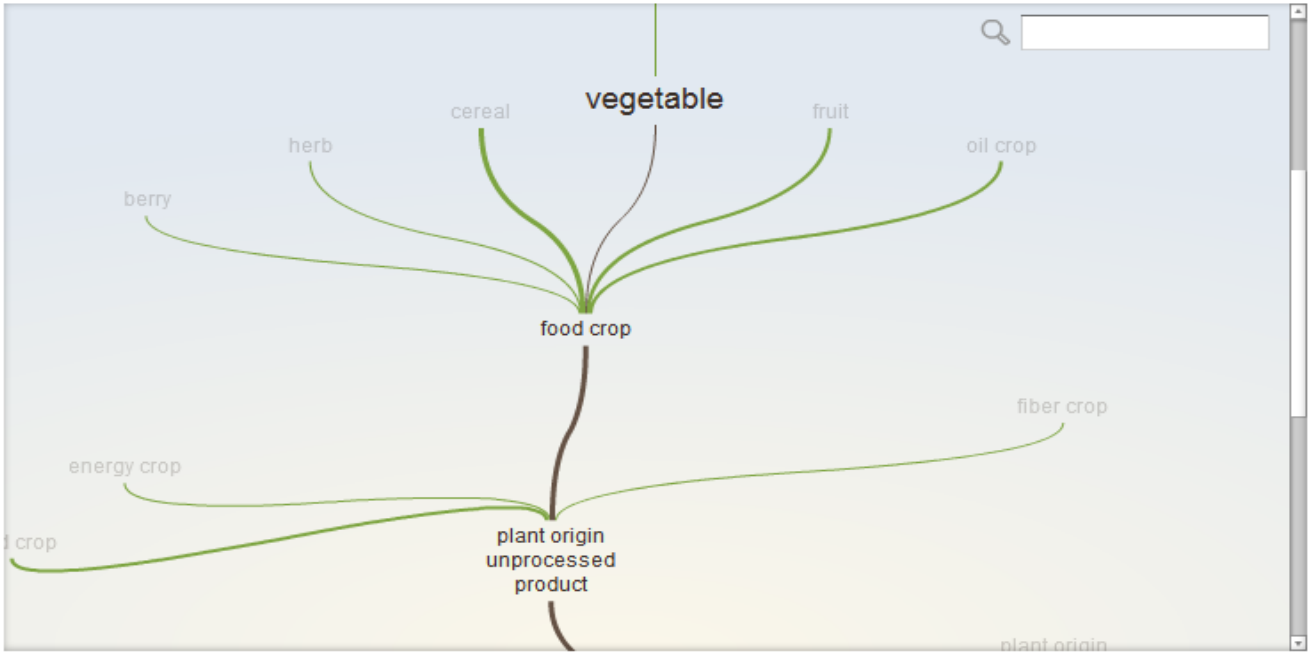
→ Source

Report problem with resource

0 votes View rating history View reviewing history

Tags: ADD TAG

Semantic Search in OE portal



▸Advanced options

72 resources are related to the term vegetable

Reset

Artichoke production in California

A six page document on globe artichoke production, Cynara scolymus, in California by Richard Smith et al, farm advisors for the University of California, updated in 2008. It gives details of production areas and seasons, climatic requirements, varieties and planting techniques, soils, irrigation, f...

Date: Monday, 24 August 2009
Classification: pest control, vegetable

Bean

Bean in an arable land experiment

Date: Friday, 02 April 2010
Classification: horticulture, vegetable

User interface:16 languages

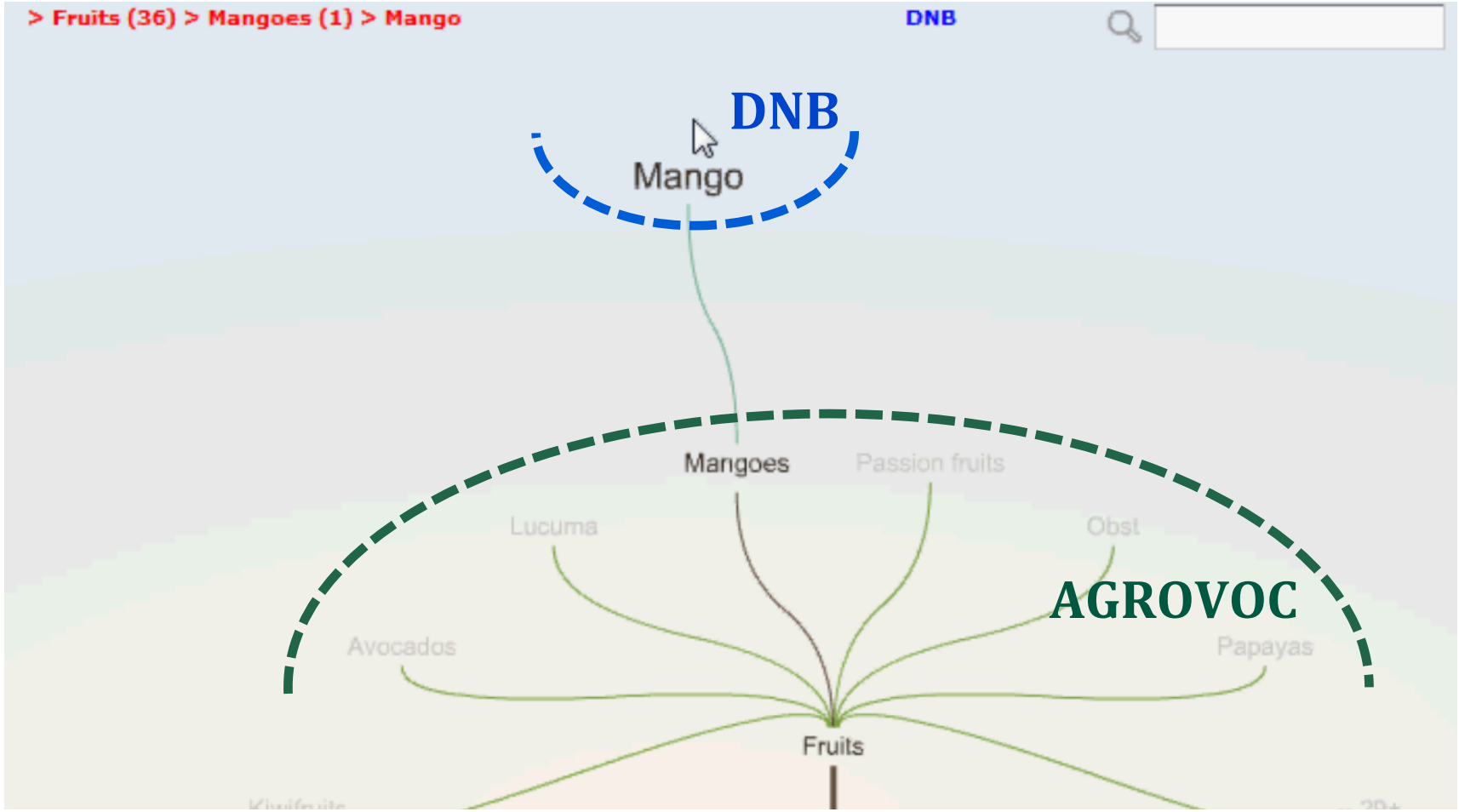
Contents in 8 languages

Ontology: almost 20 languages

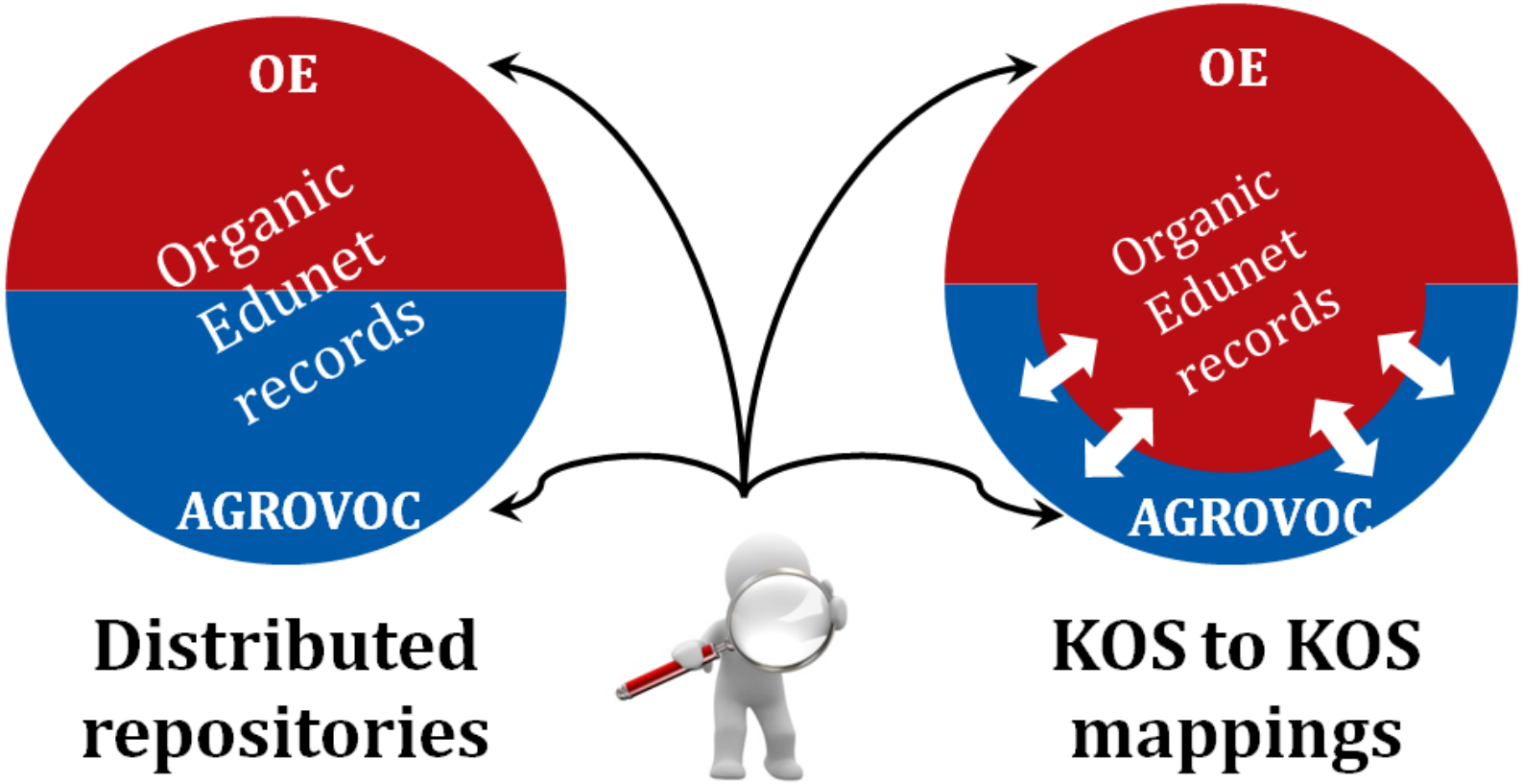
1000 resources metadata in 9 languages

PREVIOUS SEARCH SCOPE WAS LIMITED TO OE ONTOLOGY

Improving *berrypicking* search by mapping agricultural terminologies



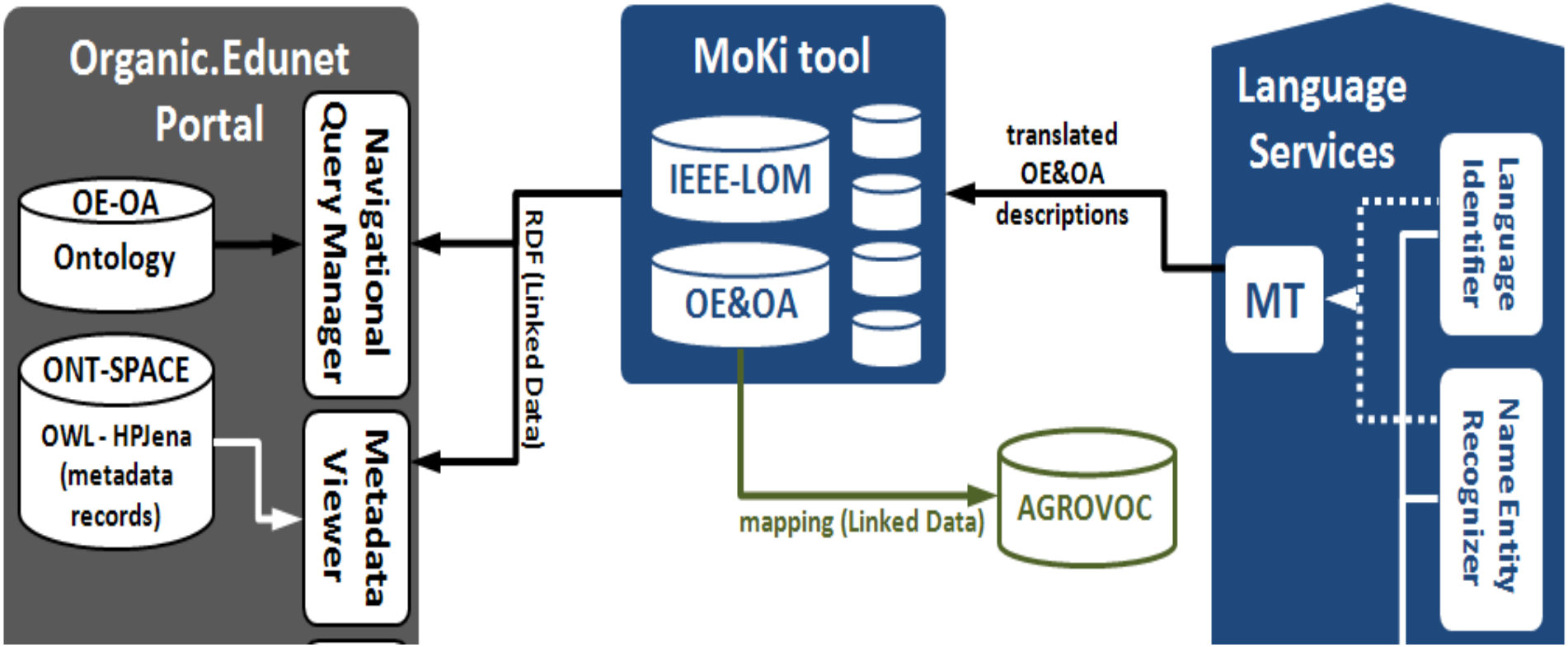
Approaches for KOS mediated Search and Browse



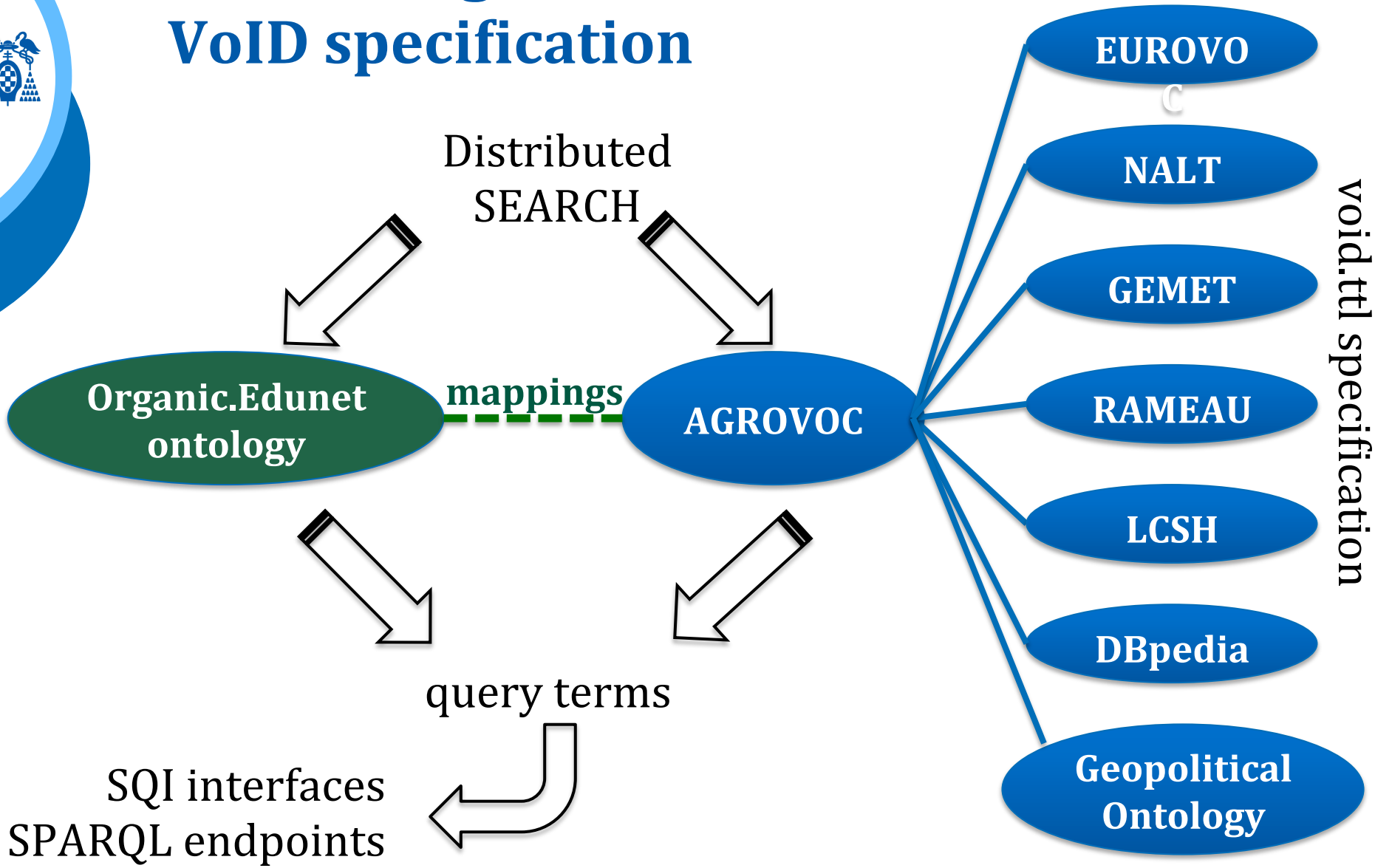
Deciding which approach is better fitting a particular collection involves the study of their **degree of overlapping and coverage** and the extent to which the combination is adding real value to the solution.

OE redesign to adopt LOD approach

```
<http://.../ont/biological-fertilizer>
 oe:is-made-from
<http://.../ont/plant-origin-processed-product>;
```

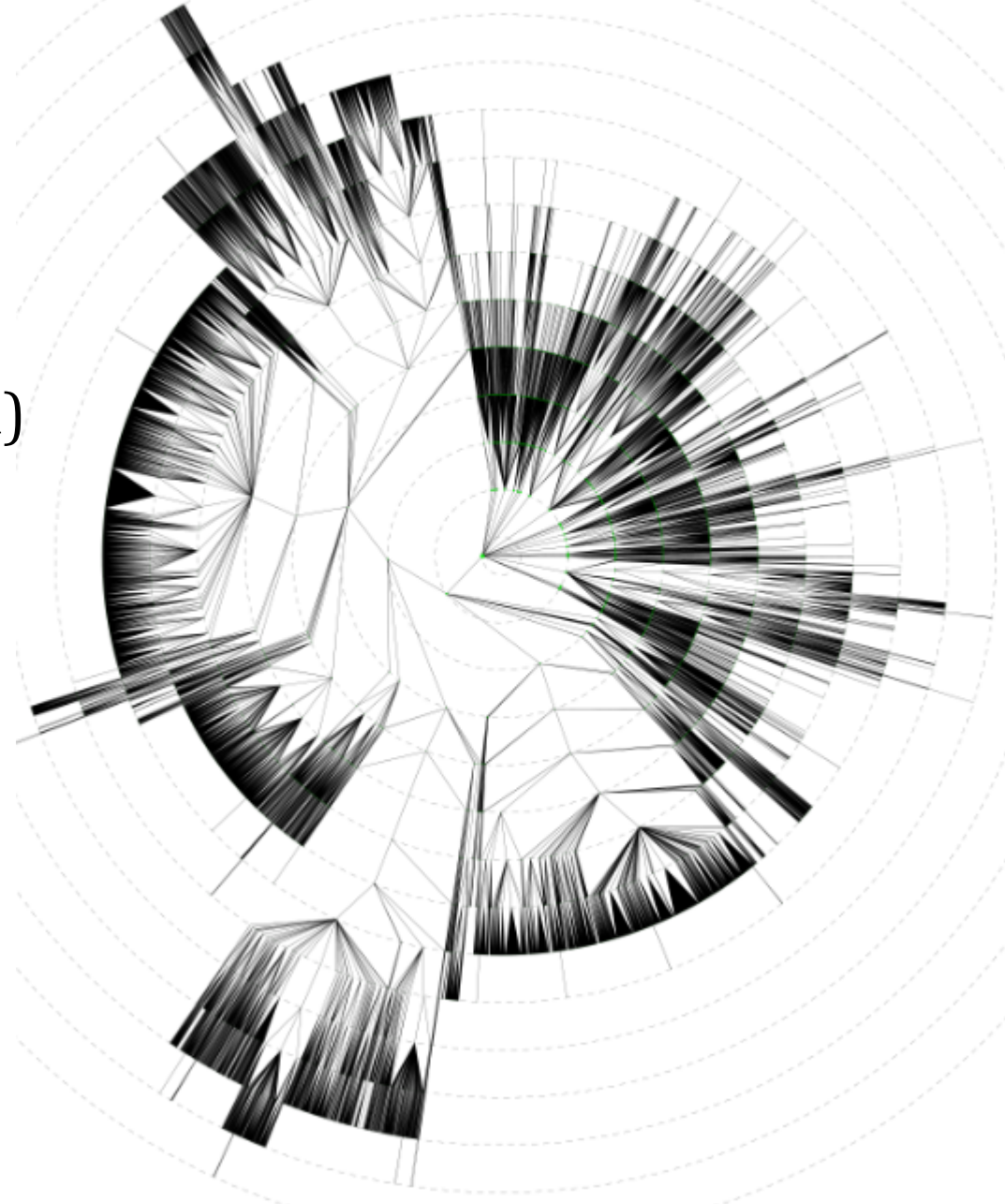


Connecting linksets with VoID specification

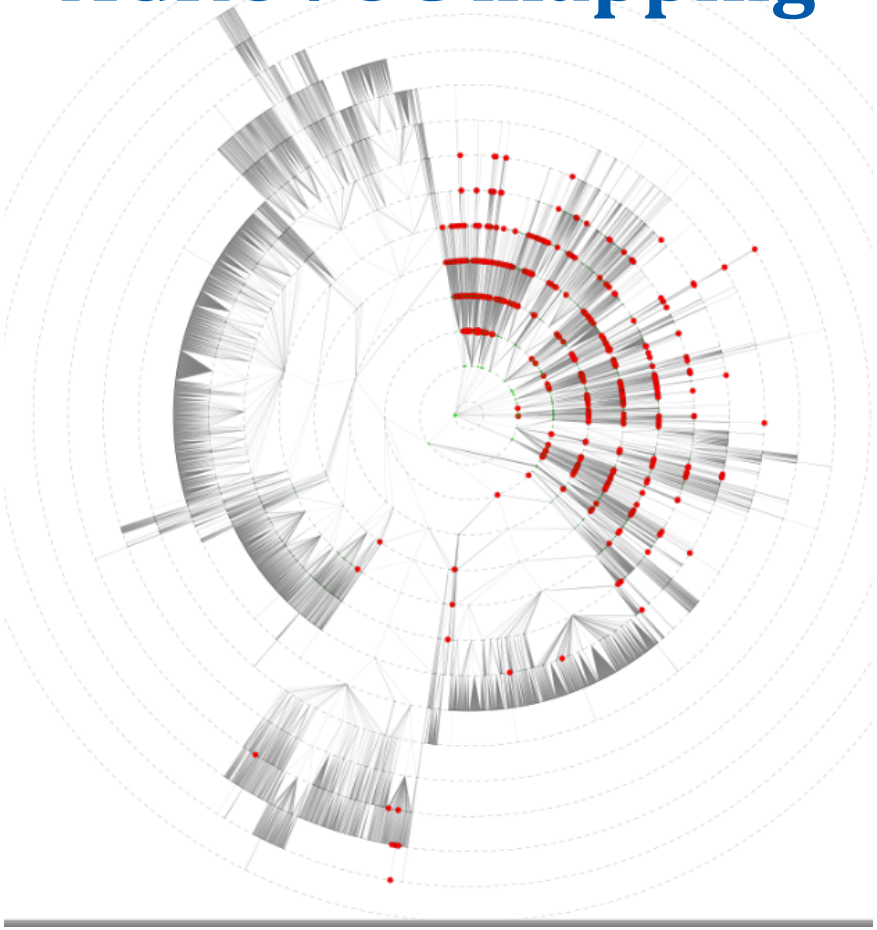


Radial Tree layout of AGROVOC

- Terms: **40950**
- Relations: **154300** (only broader and narrower are shown)
- Hierarchy levels: **13** (the longest branch)
- Levels 8 & 9: **13000 terms**

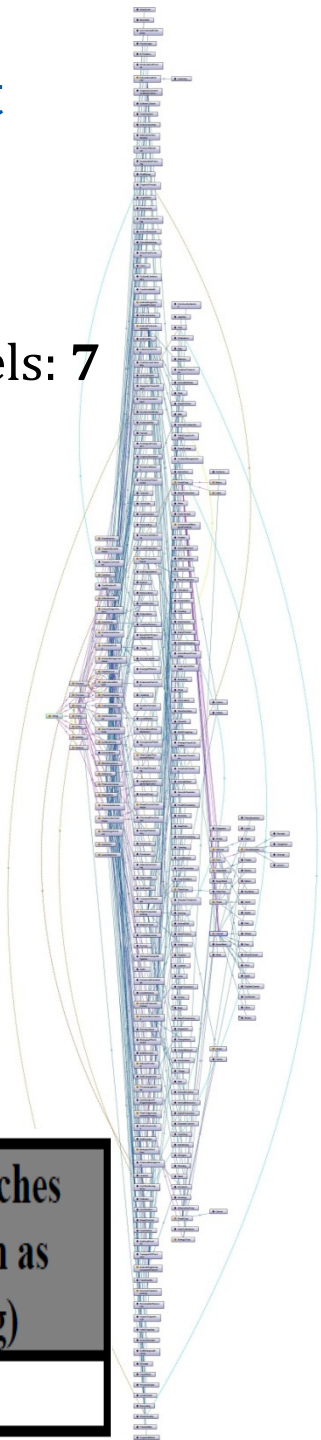


OE ontology to AGROVOC mapping



Tree layout of OE-OA

- Concepts: **289**
- Hierarchy levels: **7**



AGROVOC terms	OE ontology terms	Exact matches	Partial matches (AGROVOC term as substring)	Partial matches (OEO term as substring)
40,905	289	98 (34%)	262	1,303

OE ontology to AGROVOC mapping

- It is difficult to determine the frontiers between terms that are specific to organic agriculture and those that are not.
- The OE ontology contains terms that are not exclusive to organic agriculture and agroecology.
- Mappings occur at different levels of the AGROVOC hierarchy. They are not associated to a particular sub-tree.
- High degree of overlapping in general terms.

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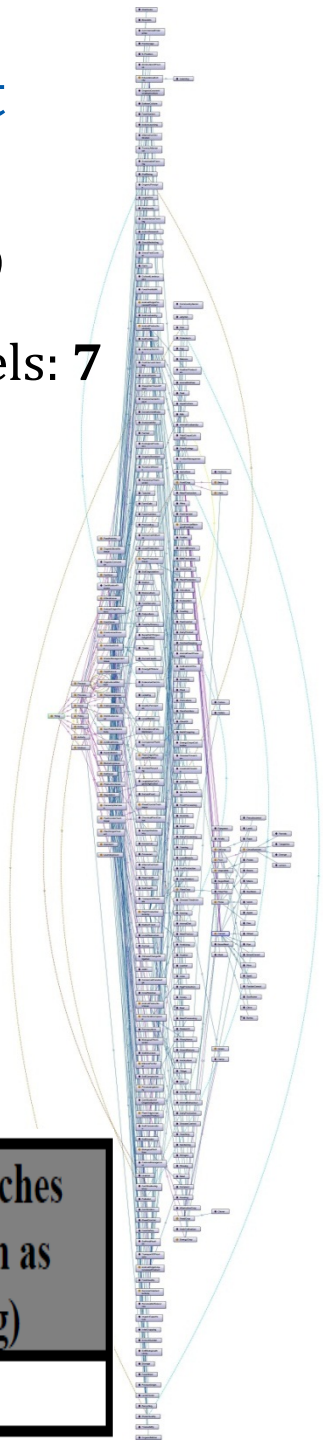

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Conclusions

- Seamlessly locate datasets that contains information relevant to organic agriculturists research interests.
- Programmatically access as RDF dump, through SPARQL endpoint or other available protocols.
- Find out the license associated with the dataset, making sure that data are accessible under open-access license or certain attribution;
- Understand the content of the dataset in order to perform an alignment with other datasets: Assisting Data identity alignment, schema alignment, data integration.